

Claims

1. A machine for the production and/or treatment of web or sheet material (20;
5 120; 220; 320), in particular paper or board, characterized in that the machine is connected to at least one associated fuel cell unit (26; 126; 226; 326) in such a way that thermal energy produced by the fuel cell unit (26; 126; 226; 326) can be supplied to the machine as operating energy.
- 10 2. The machine as claimed in claim 1, characterized in that at least one heating section (10; 110; 210; 310) of the machine, which is designed to heat or be heated during an operating state of the machine, can be supplied with thermal energy produced by the fuel cell unit (26; 126; 226; 326) as operating energy.
- 15 3. The machine as claimed in claim 2, characterized in that waste air discharged by the fuel cell unit (26; 126; 226; 326) can be supplied to the at least one heating section (10; 110; 210; 310).
- 20 4. The machine as claimed in one of the preceding claims, characterized in that the at least one heating section (10) or at least one of the heating sections (10) comprises a drying device (10), through which the web or sheet material (20) can be guided and/or along which the web or sheet material (20) can be guided, the drying device (10) comprising at least one heatable drying cylinder (12) on which the web or sheet material (20) can be guided directly or resting on a
25 dryer felt (16) running on the drying cylinder (12), it being possible for thermal energy produced by the fuel cell unit (26) to be supplied to the drying cylinder (12).

5. The machine as claimed in claim 4, characterized in that waste air discharged by the fuel cell unit (26) flows through the at least one drying cylinder (12) and/or in that a fluid, to which thermal energy produced by the fuel cell unit (26), in particular waste air discharged by the fuel cell unit (26), can be supplied, flows through the drying cylinder (12).
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6. The machine as claimed in one of the preceding claims, characterized by a hot gas drying device (100; 300) through which the web or sheet material (120; 320) can be guided and/or along which the web or sheet material (120; 320) can be guided, the hot gas drying device (100; 300) operating on the basis of drying gas which can be applied to the web or sheet material (120; 320), it being possible for the drying gas to be provided on the basis of thermal energy discharged by the fuel cell unit (126; 326).
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7. The machine as claimed in claim 6, characterized in that waste air discharged by the fuel cell unit (126; 326) can be combined with gas provided by a gas supply, in order to provide the drying gas.
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8. The machine as claimed in either of claims 6 and 7, characterized in that waste air discharged by the fuel cell unit (126; 326) can be supplied to a heat exchanger (152; 352), which is designed to heat gas provided by a gas supply and therefore to provide it as drying gas.
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9. The machine as claimed in one of claims 6 to 8, characterized in that waste air discharged by the fuel cell unit (126; 326) can be supplied to the hot gas drying device (100; 300) as drying gas.
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10. The machine as claimed in one of the preceding claims, characterized in that the fuel cell unit (26; 126; 226; 326) is arranged in the vicinity of, preferably at

a distance of less than approximately 100 meters from, at least one heating section (10; 100; 200; 300) of the machine.

11. A combination of a machine as claimed in one of the preceding claims with the
5 associated fuel cell unit (26; 126; 226; 326).
12. A method for the production and/or treatment, in particular for the heating
and/or drying, of web or sheet material by using a machine, in particular a
machine as claimed in one of claims 1 to 11, in which the machine is supplied
10 with thermal energy produced by a fuel cell unit.
13. The method as claimed in claim 12, in which the machine is supplied with
electrical energy produced by a fuel cell unit.